Volume 29 June, 1943 *Number 6*

Lubrication

A Technical Publication Devoted to the Selection and Use of Lubricants

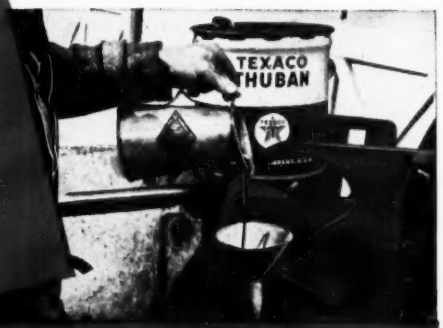
THIS ISSUE

Farm Machinery Lubrication—Part II

PUBLISHED BY
THE TEXAS COMPANY
TEXACO PETROLEUM PRODUCTS

Leading Agricultural Engineers say:

"PROPER CARE will add years to the life of your Ensilage Cutter"



Flush and refill bevel gear case of your ensilage cutter once a year. Keep it filled to the proper level with Texaco Thuban lubricant, made of specially selected mineral oils. Thuban also is unmatched for the transmission of your tractor, truck or car.

Grease cups on the main bearing shafts should be turned down four times daily. Fill these cups with Texaco Marfak, the tough, tacky "chassis" lubricant you use for your car, truck or tractor. Do not oil "apron"—for the oil will collect dust, promote rapid chain wear.

Give roller and other bearings a shot of Texaco Marfak twice a day. Texaco has prepared lubrication guides for all major field machines. See your local Texaco Man and pick out the guides you want. Lubricate by chart and not by chance. These new guides are free.

TEXACO is glad to pass along to farmers everywhere the helpful advice of the country's leading Agricultural Engineers on machinery care. Typical are these suggestions on caring for the ensilage cutter: "Don't overcrowd the feeder of your ensilage cutter. Steady, even feeding gets more silage cut in less time with less effort. Keep bolts tight and excessive sag out of the 'apron.' Lubricate twice a day. Use good quality lubricants. Remember the length of life and freedom from trouble of any farm implement is determined largely by the lubrication it receives."

TEXACO

TEXACO PRODUCTS FOR THE FARM

LUBRICATION

A Technical Publication Devoted to the Selection and Use of Lubricants

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Farm Machinery Lubrication—Part II*

DODGING, fighting, suffering through seven long years of heartbreak to establish the rights of free men, Washington's Army lived off the country. His Quartermaster Corps was perhaps the most efficient body of foragers in history.

Even in the initial stages of the First World War foraging still prevailed to some extent. Forage meant that the farmer had to give or sell what he had raised; perhaps he was paid, perhaps not, depending on who the foragers might be.

In the days when forage was most popular the farmer cradled his wheat and threshed it on the barn floor to separate the kernels from the straw; then he cleaned it with a hand-turned fan mill. But Cyrus McCormick felt this custom was too laborious for the amount of grain obtained. He visioned a growing democracy and his vision led to the invention of the reaper, the forebear of the modern harvester and combine. Result: The cradle, flail and fan mill went to the museums while the farmer rides his tractor through the great wheat fields of the nation, the mechanical gadget doing the work. Likewise in cutting, husking and shelling corn. Furthermore, the farmer today utilizes the waste material more effectually. Wheat, oat and rye stalks for cattle straw; corn stalks for ensilage or cattle feed; and oat husks for furfural. Furfural is the remarkable solvent which but a few years ago revolutionized petroleum refining procedure to give the farmer and motoring public the highly dependable motor oils needed to protect tractor, truck and car engines.

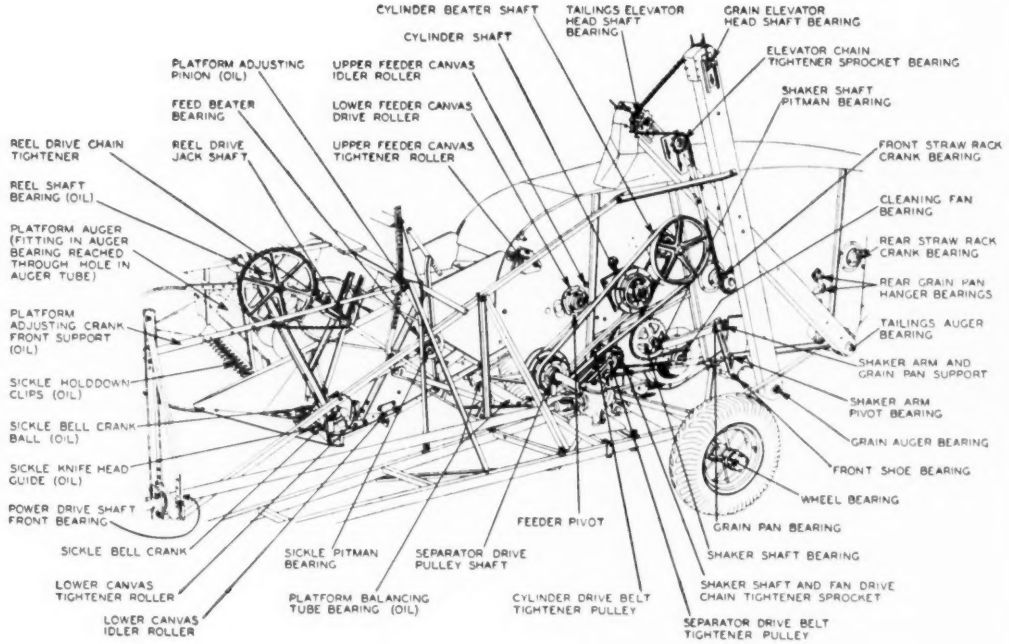
This year the greatest victory garden of all time will be harvested in the wheat fields, the corn belt and potato areas of the United States. Simultaneously, the soya bean will become a major product and rye, oats and barley in greater volume than ever will supplement our other foodstuffs. The American farmer did not need to be sold on the victory idea. He was fully aware that an army "Fights on its stomach," and that the shipyard and war-plant worker must be equally well fed. It takes vitamins and calories to produce energy. The farmer learned this the hard way, by getting up before dawn to tend stock, do the milking, and get into the fields with his implements.

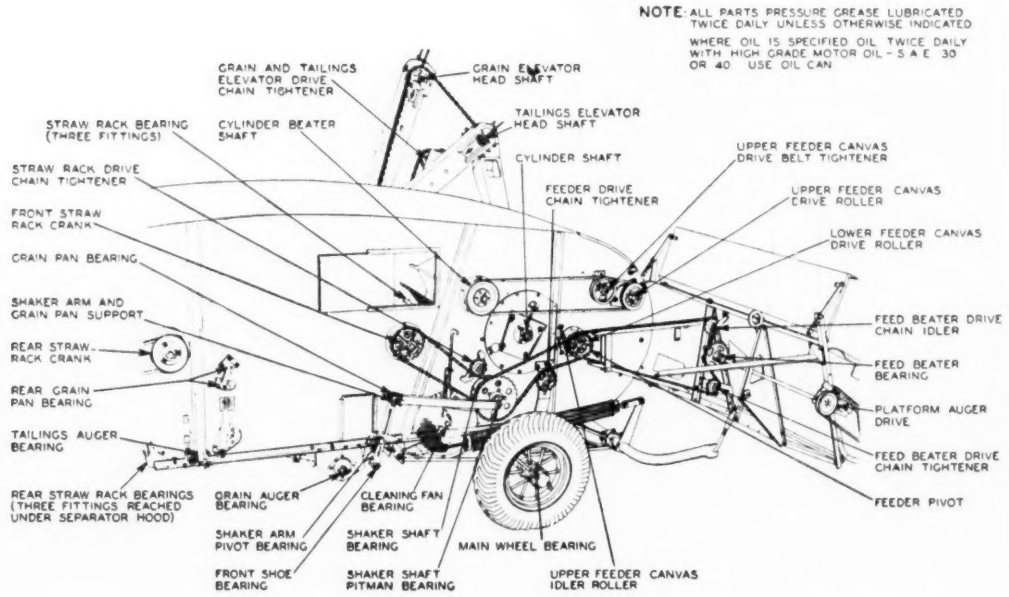
Energy, in terms of power, is also a factor in farm-implement service. Obviously, if the farmer can reduce the rate of power consumption he can conserve energy. The wherewithal is available in the form of lubrication.

Lubrication on the farm, of course, extends beyond the motive power equipment. The combine, harvester, corn-cutting machine and potato digger, etc., also must be considered. It is therefore fitting that we study some of these widely used mechanical implements. By the very nature of their precise design, all their moving parts must likewise be protected—by lubrication when operating, by a rust preventive when idle. The lubrication chart shows this most effectually.

*NOTE:—Part I on this subject covering Soil Fitting, Planting, Cultivating and Haying Machinery appeared in Jan., 1943.

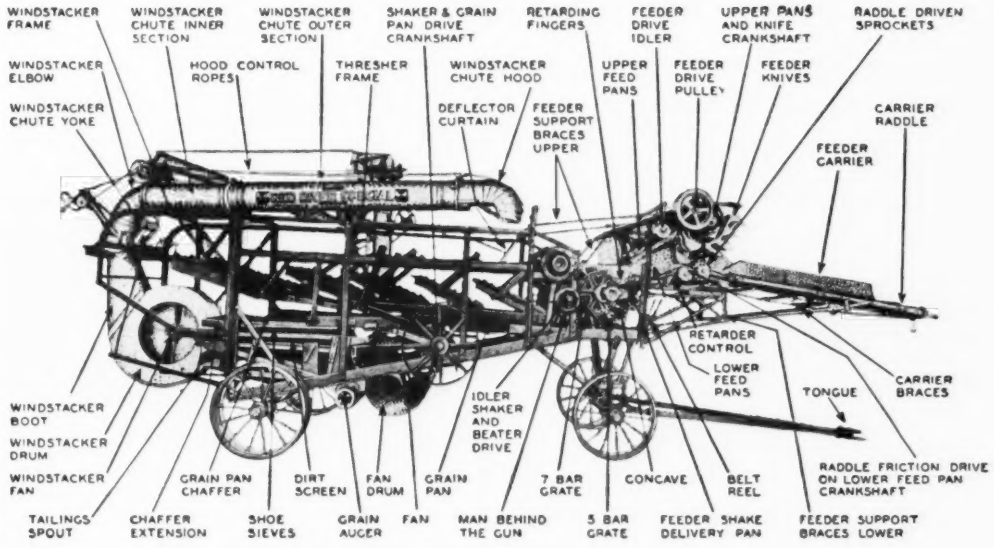
THE McCORMICK-DEERING HARVESTER-THRESHER


CYLINDER BEATER SHAFT
TAILINGS ELEVATOR HEAD SHAFT BEARING
GRAIN ELEVATOR HEAD SHAFT BEARING
CYLINDER SHAFT
ELEVATOR CHAIN TIGHTENER SPROCKET BEARING
PLATFORM ADJUSTING PINION (OIL)
UPPER FEEDER CANVAS IDLER ROLLER
SHAKER SHAFT PITMAN BEARING
FEED BEATER BEARING
LOWER FEEDER CANVAS DRIVE ROLLER
REEL DRIVE CHAIN TIGHTENER
REEL DRIVE JACK SHAFT
UPPER FEEDER CANVAS TIGHTENER ROLLER
FRONT STRAW RACK CRANK BEARING
REEL SHAFT BEARING (OIL)
CLEANING FAN BEARING
PLATFORM AUGER (FITTING IN AUGER BEARING REACHED THROUGH HOLE IN AUGER TUBE)
REAR STRAW RACK CRANK BEARING
REAR GRAIN PAN HANGER BEARINGS
PLATFORM ADJUSTING CRANK FRONT SUPPORT (OIL)
TAILINGS AUGER BEARING
SICKLE HOLDDOWN CLIPS (OIL)
SHAKER ARM AND GRAIN PAN SUPPORT
SICKLE BELL CRANK BALL (OIL)
SHAKER ARM PIVOT BEARING
GRAIN AUGER BEARING
SICKLE KNIFE HEAD GUIDE (OIL)
FRONT SHOE BEARING
POWER DRIVE SHAFT FRONT BEARING
WHEEL BEARING
FEEDER PIVOT
GRAIN PAN BEARING
SICKLE BELL CRANK
SICKLE PITMAN BEARING
SEPARATOR DRIVE PULLEY SHAFT
SHAKER SHAFT BEARING
LOWER CANVAS TIGHTENER ROLLER
SHAKER SHAFT AND FAN DRIVE CHAIN TIGHTENER SPROCKET
PLATFORM BALANCING TUBE BEARING (OIL)
CYLINDER DRIVE BELT TIGHTENER PULLEY
LOWER CANVAS IDLER ROLLER
SEPARATOR DRIVE BELT TIGHTENER PULLEY


NOTE: ALL PARTS PRESSURE GREASE LUBRICATED TWICE DAILY UNLESS OTHERWISE INDICATED
WHERE OIL IS SPECIFIED OIL TWICE DAILY WITH HIGH GRADE MOTOR OIL - S A E 30 OR 40 USE OIL CAN
GRAIN AND TAILINGS ELEVATOR DRIVE CHAIN TIGHTENER
GRAIN ELEVATOR HEAD SHAFT
STRAW RACK BEARING (THREE FITTINGS)
CYLINDER BEATER SHAFT
TAILINGS ELEVATOR HEAD SHAFT
CYLINDER SHAFT
UPPER FEEDER CANVAS DRIVE BELT TIGHTENER
STRAW RACK DRIVE CHAIN TIGHTENER
FEEDER DRIVE CHAIN TIGHTENER
UPPER FEEDER CANVAS DRIVE ROLLER
FRONT STRAW RACK CRANK
LOWER FEEDER CANVAS DRIVE ROLLER
GRAIN PAN BEARING
SHAKER ARM AND GRAIN PAN SUPPORT
FEED BEATER DRIVE CHAIN IDLER
REAR STRAW RACK CRANK
FEED BEATER BEARING
REAR GRAIN PAN BEARING
PLATFORM AUGER DRIVE
TAILINGS AUGER BEARING
FEED BEATER DRIVE CHAIN TIGHTENER
REAR STRAW RACK BEARINGS (THREE FITTINGS REACHED UNDER SEPARATOR HOOD)
GRAIN AUGER BEARING
CLEANING FAN BEARING
FEEDER PIVOT
SHAKER ARM PIVOT BEARING
SHAKER SHAFT BEARING
MAIN WHEEL BEARING
FRONT SHOE BEARING
SHAKER SHAFT PITMAN BEARING
UPPER FEEDER CANVAS IDLER ROLLER

Courtesy of International Harvester Company

THE OLIVER "RED RIVER" SPECIAL THRESHER



PARTS IDENTIFICATION CHART FOR AN OLIVER RED RIVER SPECIAL THRESHER

NOTE: THE VARIOUS SHAFT BEARINGS SHOULD BE PRESSURE GREASE LUBRICATED EVERY FIVE HOURS.

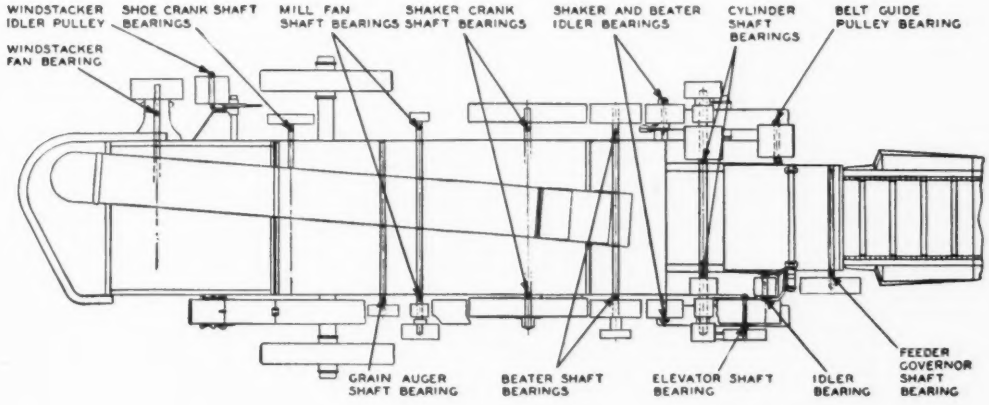
DO NOT GREASE WHILE IN OPERATION.

TURN DOWN PRESSURE GREASE CUPS EVERY TWO AND A HALF HOURS.

BEARINGS AND CHAINS REQUIRING OIL SHOULD BE LUBRICATED WITH A HIGH GRADE MOTOR OIL - S.A.E. 30 OR 40 - TWO TO FOUR TIMES DAILY.

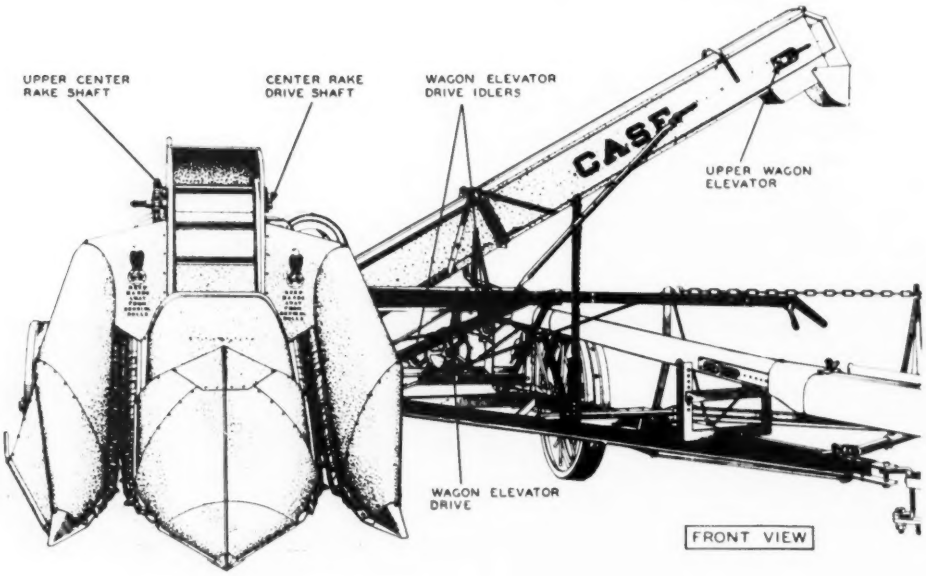
GEARS SHOULD BE LUBRICATED WITH A HIGH GRADE SEASONAL GEAR LUBRICANT.

PLAN VIEW OF PULLEY SHAFTING AND BEARINGS OF
THE OLIVER RED RIVER SPECIAL 22 X 36 AND 28 X 46 THRESHERS



Courtesy of Oliver Farm Equipment Company

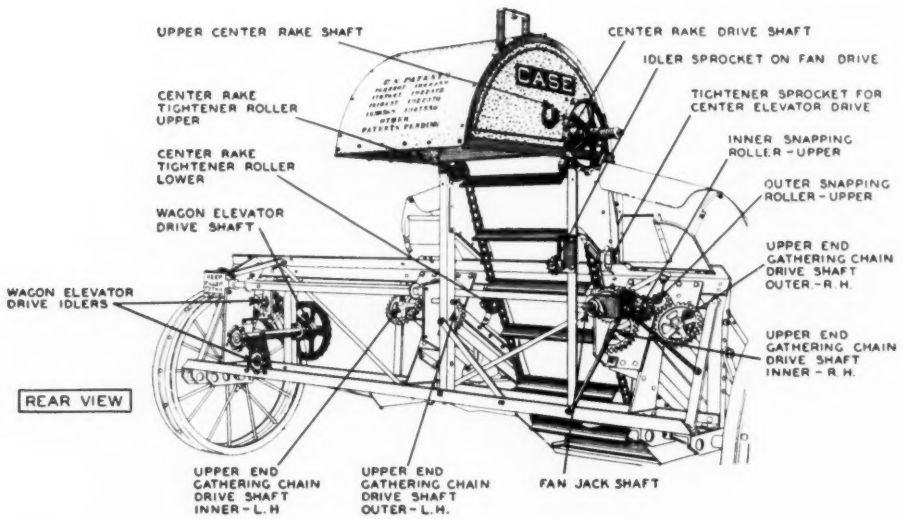
CASE MODEL "I" CORN PICKER



NOTE: ALL PARTS INDICATED ARE PRESSURE GREASE LUBRICATED EVERY FIVE HOURS.

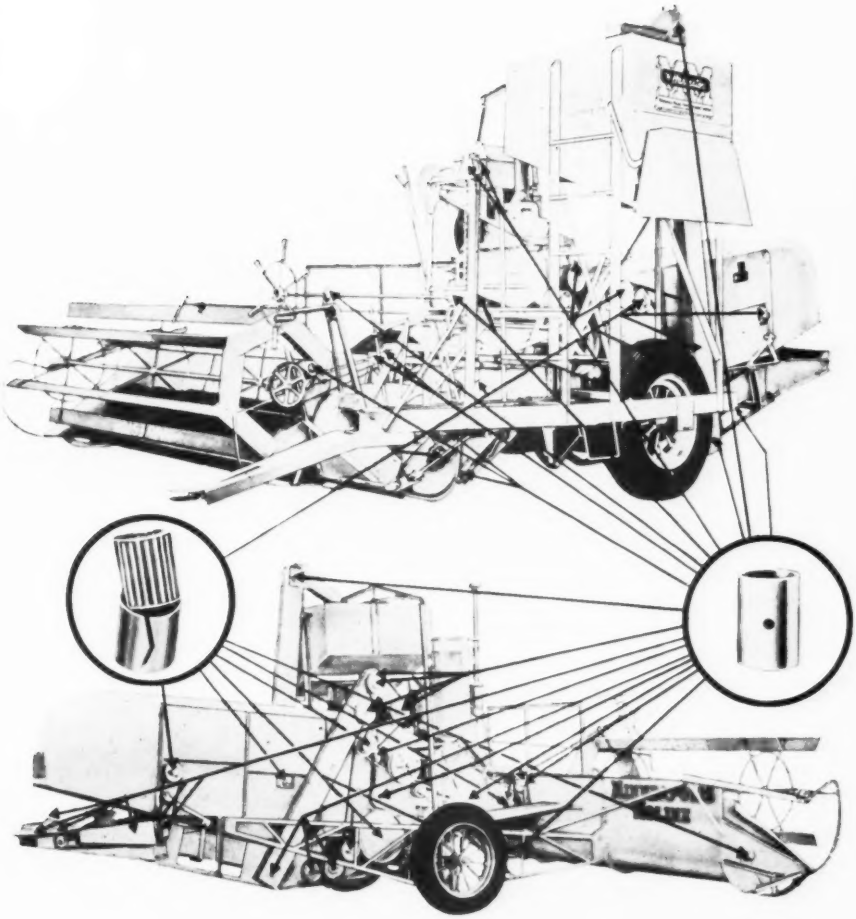
KEEP MAIN GEAR BOX FILLED TO PROPER LEVEL AT ALL TIMES WITH A HIGH GRADE S.A.E. 140 GEAR OIL.

OIL JUMP CLUTCHES FOR GATHERING CHAINS EVERY TWENTY HOURS. USE HIGH GRADE MEDIUM VISCOSITY MOTOR OIL.


UPPER CENTER RAKE SHAFT
CENTER RAKE DRIVE SHAFT
IDLER SPROCKET ON FAN DRIVE
CASE
CENTER RAKE TIGHTENER ROLLER UPPER
TIGHTENER SPROCKET FOR CENTER ELEVATOR DRIVE
CENTER RAKE TIGHTENER ROLLER LOWER
INNER SNAPPING ROLLER - UPPER
OUTER SNAPPING ROLLER - UPPER
WAGON ELEVATOR DRIVE SHAFT
UPPER END GATHERING CHAIN DRIVE SHAFT OUTER - R.H.
WAGON ELEVATOR DRIVE IDLERS
UPPER END GATHERING CHAIN DRIVE SHAFT INNER - R.H.
REAR VIEW
UPPER END GATHERING CHAIN DRIVE SHAFT INNER - L.H
UPPER END GATHERING CHAIN DRIVE SHAFT OUTER - L.H.
FAN JACK SHAFT

Courtesy of J. I. Case Company

THE MINNEAPOLIS-MOLINE "69" HARVESTER

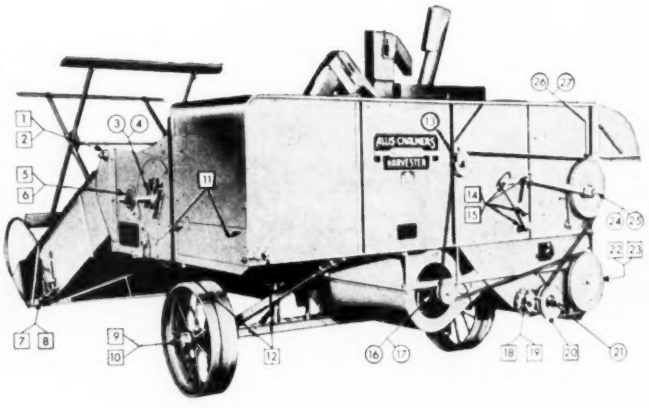


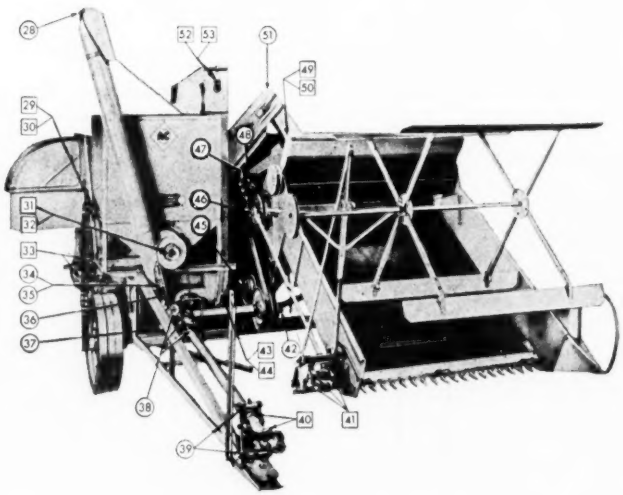
WEEKLY -	CHANGE ENGINE OIL. ADD GREASE TO GEAR BOX.
DAILY -	CHECK ENGINE OIL LEVEL. PRESSURE GREASE LUBRICATED CYLINDER BEARINGS.
FOUR TIMES DAILY -	PRESSURE GREASE LUBRICATED BELL CRANK SOCKETS AND SICKLE HEAD. OIL SICKLE HEAD CLIPS WITH HIGH GRADE MOTOR OIL - S.A.E. 30 OR 40. GREASE ECCENTRICS.
TWICE DAILY -	PRESSURE GREASE LUBRICATE ALL OTHER BEARINGS.

Courtesy of Minneapolis-Moline Power Implement Co. (Inc.)

THE ALLIS-CHALMERS MODEL "60" ALL-CROP HARVESTER

DESCRIPTION AND LOCATION OF PRESSURE LUBRICANT FITTINGS



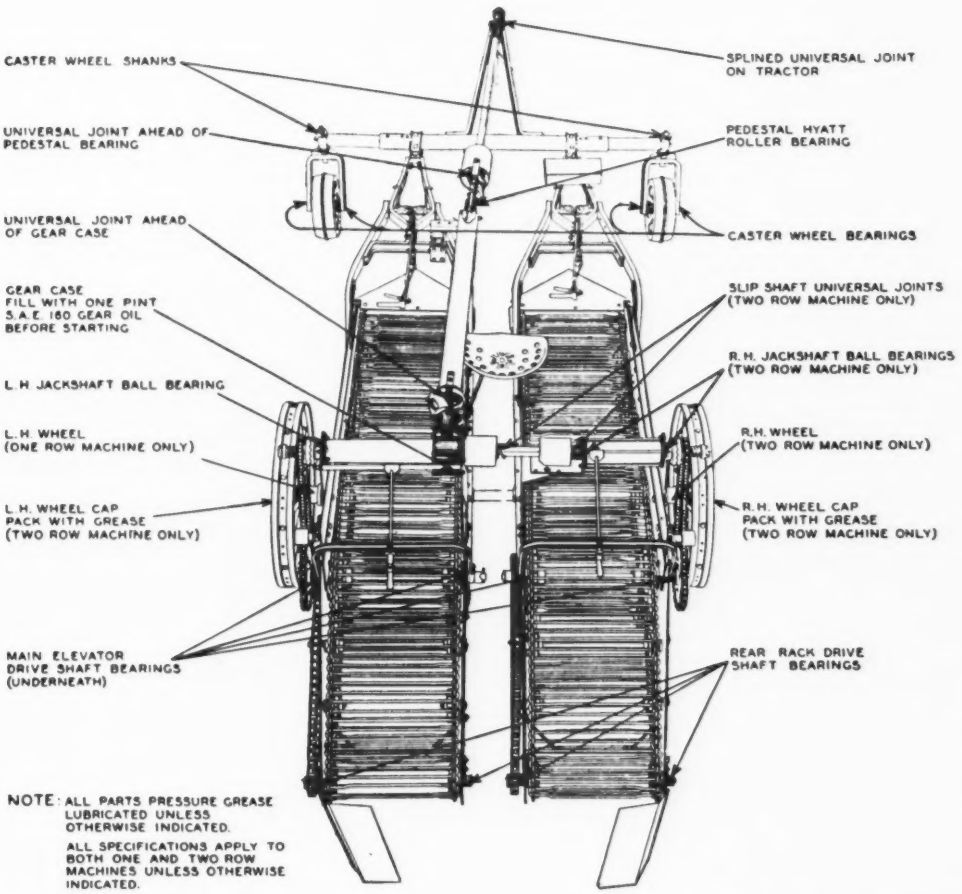


1. Upper draper drive roller, bearing, L. H.
2. Upper draper drive roller, bearing, R. H.
3. Cylinder shaft, bearing, L. H.
4. Cylinder shaft, bearing, R. H.
5. Lower draper drive roller, bearing, L. H.
6. Lower draper drive roller, bearing, R. H.
7. Lower draper idler roller, bearing, L. H.
8. Lower draper idler roller, bearing, R. H.
9. Wheel, L. H.
10. Wheel, R. H.
11. Straw rack hanger, bearings, (2 fittings).
12. Grain drag idler shaft, bearings, (2 fitgs.).
13. Separator belt idler, bearing.
14. Straw rack rocker arm, rear, (4 fittings).
15. Straw rack rocker arm, front, (4 fittings).
16. Fan shaft bearing, rear.
17. Fan shaft bearing, front.
18. Grain conveyor, bearing, rear.
19. Grain conveyor, bearing, front.
20. Separator drive shaft, bearing, under separator body.
21. Separator drive shaft slip clutch hub.
22. Tailings conveyor, bearing, rear.
23. Tailings conveyor, bearing, front.
24. Straw rack pitman, bearing, rear.
25. Straw rack pitman, bearing, front.
26. Grain drag drive shaft, bearing, rear.
27. Grain drag drive shaft, bearing, front.
28. Unloading conveyor, bearing, outer.
29. Reel counter shaft, bearing, R. H.
30. Reel counter shaft, bearing, L. H.
31. Unloading conveyor clutch, bearing, front.
32. Unloading conveyor clutch, bearing, rear.
33. Reel drive chain idler, (2 fittings).
34. Unloading conveyor drive shaft.
35. Unloading conveyor, bearing, inner.
36. Universal joint, separator drive shaft.
37. Gear box. Keep filled to level plug. Use S.A.E. 140 oil for temperatures above 32 degrees and S.A.E. 90 below 32 degrees.
38. Universal joint, slip clutch and shaft, (3 fittings).
39. P. T. O. shaft bearing and support bearing, (2 fittings).
40. Hitch joint assembly, (2 fittings).
41. Sickle bell crank linkage, (3 fittings).
42. Header drive sheave slip clutch.
43. Grain elevator, bearing, lower front.
44. Grain elevator, bearing, lower rear.
45. Cylinder drive belt idler.
46. Sickle pitman, bearing.
47. Cylinder sheave hub, sheave bearing and adjusting yoke pin, (3 fittings).
48. Header drive belt idler.
49. Upper draper idler roller, bearing, R. H.
50. Upper draper idler roller, bearing, L. H.
51. Tailings elevator, bearing, upper.
52. Grain elevator, bearing, upper front.
53. Grain elevator, bearing, upper rear.

This chart points out pressure gun fittings which require lubrication as indicated, □ twice daily, ○ once daily. When working in extemely dusty or sandy conditions the machine may require lubrication oftener. Use oil can to lubricate other moving parts such as header lift linkage, reel shaft, cleaning shoe hangers, etc.

Courtesy of Allis-Chalmers Manufacturing Company

THE SYRACUSE TWO-ROW POTATO DIGGER

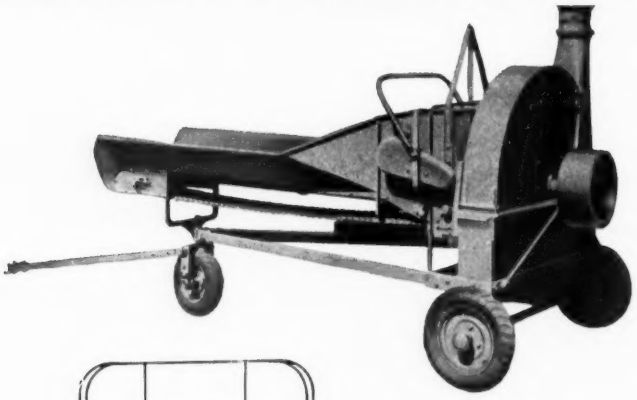

CASTER WHEEL SHANKS
SPLINED UNIVERSAL JOINT ON TRACTOR
UNIVERSAL JOINT AHEAD OF PEDESTAL BEARING
PEDESTAL HYATT ROLLER BEARING
UNIVERSAL JOINT AHEAD OF GEAR CASE
CASTER WHEEL BEARINGS
GEAR CASE FILL WITH ONE PINT S.A.E. 160 GEAR OIL BEFORE STARTING
SLIP SHAFT UNIVERSAL JOINTS (TWO ROW MACHINE ONLY)
R.H. JACKSHAFT BALL BEARINGS (TWO ROW MACHINE ONLY)
L.H. JACKSHAFT BALL BEARING
L.H. WHEEL (ONE ROW MACHINE ONLY)
R.H. WHEEL (TWO ROW MACHINE ONLY)
L.H. WHEEL CAP PACK WITH GREASE (TWO ROW MACHINE ONLY)
R.H. WHEEL CAP PACK WITH GREASE (TWO ROW MACHINE ONLY)
MAIN ELEVATOR DRIVE SHAFT BEARINGS (UNDERNEATH)
REAR RACK DRIVE SHAFT BEARINGS

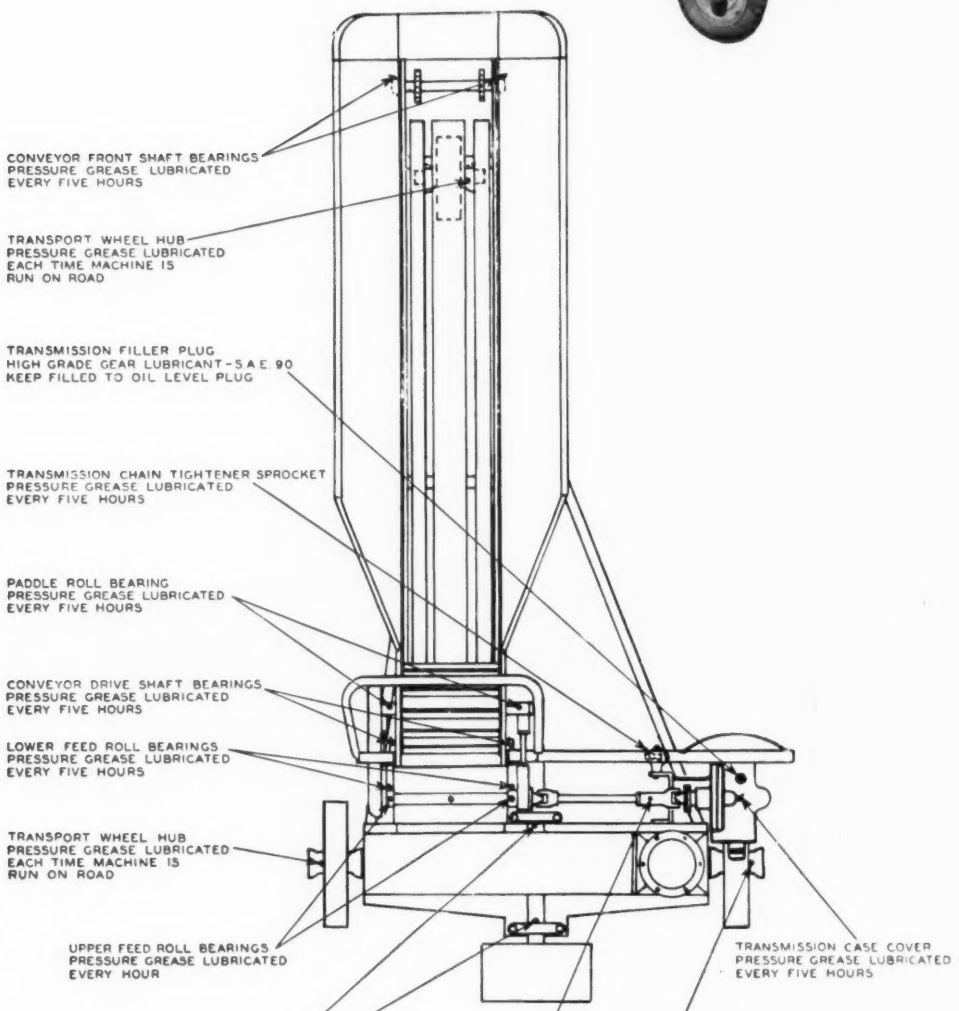
NOTE: ALL PARTS PRESSURE GREASE LUBRICATED UNLESS OTHERWISE INDICATED.

ALL SPECIFICATIONS APPLY TO BOTH ONE AND TWO ROW MACHINES UNLESS OTHERWISE INDICATED.

Courtesy of Deere & Company, Syracuse Chilled Plow Co., Inc., Division

THE McCORMICK-DEERING ENSILAGE CUTTER



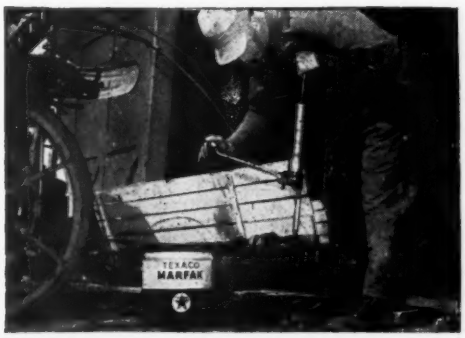


Courtesy of International Harvester Company

Printed in U. S. A. by
EDGAR C. RUWE CO., INC.
72 Washington St., N. Y. C.

GET MORE OUT OF YOUR
CORN HARVESTING
By Avoiding Breakdowns

Keep chains adjusted. Take up slack. Loose chains will jump off the sprocket and break or bend the links. If a chain keeps jumping off the sprocket, look for a bent link. Tight chains can cause trouble, too. Oil and clean chains frequently.



Marfak bundle-carrier bearings daily. There's no better lubricant for your farm machinery, tractor, truck or car than Texaco Marfak, and these days it's costly to gamble on ordinary grease.

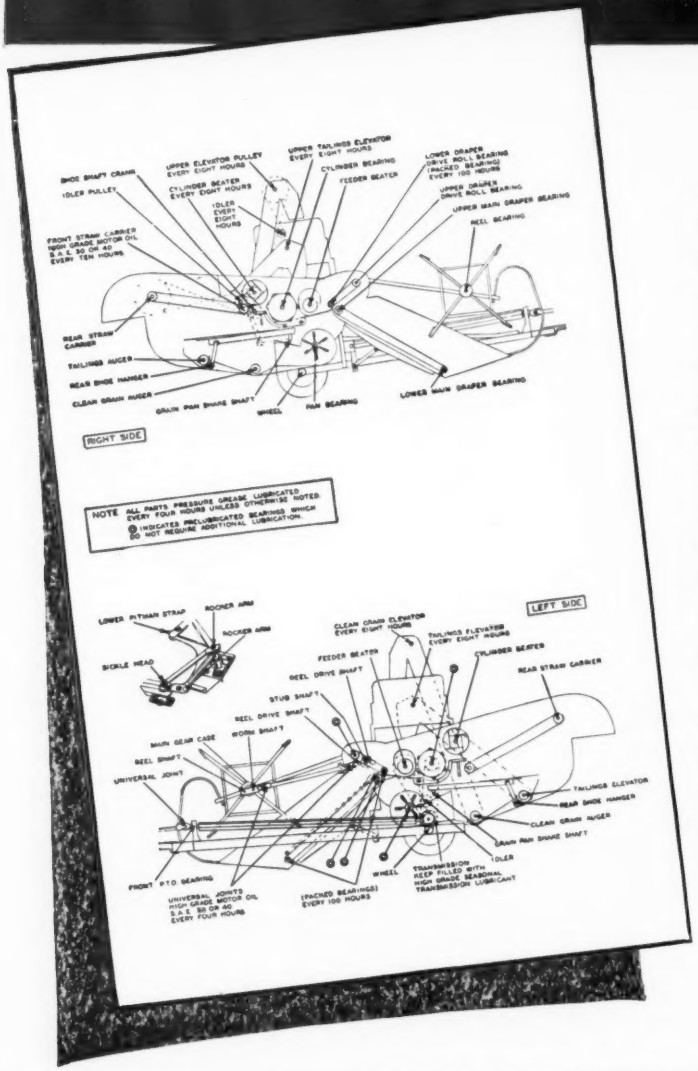
Marfak all sprocket bearings daily. They operate at high speed and need a lubricant that will stick to its job. Marfak does. It is made of special, heavy mineral oils and is very adhesive. It resists wear-out, wash-out and squeeze-out.

Check oil level in transmission and differential of your tractor frequently. It pays to use the highest quality and proper "seasonal" grade lubricant. Texaco Thuban clings to gears, thus insuring thorough lubrication and easier gear-shifting.

TEXACO
REG T M

TEXACO PRODUCTS FOR THE FARM

"These new lubrication guides will HELP SAVE FARM MACHINERY"


RIGHT SIDE
NOTE ALL PARTS PRESSURE GREASE LUBRICATED EVERY FOUR HOURS UNLESS OTHERWISE NOTED.
INDICATES UNLUBRICATED BEARINGS WHICH DO NOT REQUIRE ADDITIONAL LUBRICATION.
LEFT SIDE

THEY'RE FREE! For the first time in print, these guides present the manufacturers' recommendations and the suggestions of outside experts for lubricating typical machines that *follow the tractor.* Guides are available for all major field machines. Printed on stiff cardboard, 11" x 18", they can be nailed to the wall for handy reference. Guides show where and when to lubricate each vital bearing, eliminating guesswork.

These guides are free, in the United States only, through more than 2300 Texaco distributing points or from the nearest district office of The Texas Company listed below.

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